

**Attachment 1: Modify RBR Text**

RBR_id	req_key	Rel	Req_Ca tegory	segm ent	req_type	s_ver if_me thod	s_verif_sta t	a_veri f_met hod	a_verif_stat	CCR	text	interpretat ion text	clarification
EOC-2535#B	3694		mission critical	FOS	functional	test	un-verified	test			The EOC shall be capable of scheduling the use of the <a href="#">AGS</a> , <a href="#">SGS&amp;SN</a> , <a href="#">GN</a> , or WOTS, in the event of an emergency or contingency that prevents communication through the TDRSS.		
EOC-4005#B	7077		mission critical	FOS	functional	test	un-verified	test	un-verified	96-0956A	The EOC shall be capable of transmitting commands to the EOS spacecraft via EDOS using the:		

RBR_id	req_key	Rel	Req_Ca tegory	segm ent	req_type	s_ver if_me thod	s_verif_sta t	a_veri f_met hod	a_verif_stat	CCR	text	interpretat ion text	clarification
											a. SN b. <a href="#">AGS (for contingency or emergency operations)</a> c. <a href="#">SGS, (for contingency or emergency operations)</a> G N, DSN; d. WOTS (for contingency or emergency operations)		
EOC-4008#B	8251		mission critical	FOS	functional	test	un-verified	test	un-verified	96-1343A	The EOC shall be capable of transmitting commands via <a href="#">EbnetEcom</a> .	<a href="#">Ecom is considered to be Ebnet.</a>	
EOC-4200#B	3735		mission critical	FOS	functional	test	un-verified	test	<a href="#">un-verified</a>		The EOC shall support several uplink rates to the spacecraft,		

RBR_id	req_key	Rel	Req_Ca tegory	segm ent	req_type	s_ver if_me thod	s_verif_sta t	a_veri f_met hod	a_verif_stat	CCR	text	interpretat ion text	clarification
											which include at a minimum the following: a. 10 kilobits per second (kbps) (SSA uplink) b. 1 kbps (SMA uplink) c. 125 bits per second (bps) (SSA uplink during contingency operations) d. 2 kbps (emergency operations via S-band <b>DSN</b> link)		
ICC-4095#B	8997		mission critical	FOS	functional	test	un-verified	test	un-verified	97-0075A	The ICC shall provide the capability to receive and process, non-telemetry data,		

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RBR_id	req_key	Rel	Req_Ca tegory	segm ent	req_type	s_ver if_me thod	s_verif_st a	a_veri f_met hod	a_verif_stat	CCR	text	interpretat ion text	clarification
											which includes at a minimum the following: a. <a href="#"><u>(Deleted)Monitor blocks from the DSN, GN, and WOTS</u></a> b. <a href="#"><u>(Deleted)Status messages from EDOS</u></a> <a href="#"><u>c, Telemetry processing status messages from EDOS.</u></a>		

RBR_id	req_key	req_cate gory	segm ent	req_type	s_ver if_me thod	s_verif_st a	a_verif_ method	a_verif_st a	CCR	text	interpretatio n text	clarifi cation	L4 id
EOC-4005#A	7249	mission critical	FOS	functional	test	un-verified	test	un-verified	96-0978A	The EOC shall be capable	A: SN only.		F-CMD-01120

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RBR_id	req_key	req_category	segment	req_type	s_verif_method	s_verif_sta	a_verif_method	a_verif_sta	CCR	text	interpretation_text	clarification	L4 id
										of transmitting commands to the EOS spacecraft via EDOS using the: a. SN <a href="#">b. AGS (for contingency or emergency operations)</a> <a href="#">c. SGS, (for contingency or emergency operations)</a>			

RBR_id	req_key	req_category	segment	req_type	s_verif_method	s_verif_sta	a_verif_method	a_verif_sta	CCR	text	interpretation text	clarification	L4 id
										<a href="#">d_b_GN</a> , <a href="#">DSN</a> , WOTS (for continge ncy or emergen cy operation s)			
EOC-4008#A	4416	mission critical	FOS	functional	test	un-verified	test	<a href="#">un-verified</a>		The EOC shall be capable of transmitting commands via <a href="#">EbnetEeom</a> .			F-CMD-01160
EOC-4200#A	7251	mission critical	FOS	functional	test	un-verified	test	un-verified	96-0978A	The EOC shall support several uplink rates to	A: Limited uplink capability as defined in Level 4 requirement s.		F-CMD-11210

RBR_id	req_key	req_category	segment	req_type	s_verif_if_method	s_verif_sta	a_verif_method	a_verif_sta	CCR	text	interpretation_text	clarification	L4 id
										the spacecraft, which include at a minimum the following: a. 10 kilobits per second (kbps) (SSA uplink) b. 1 kbps (SMA uplink) c. 125 bits per second (bps) (SSA uplink during contingency operation			

RBR_id	req_key	req_categroy	segment	req_type	s_verif_if_method	s_verif_sta	a_verif_method	a_verif_sta	CCR	text	interpretation_text	clarification	L4 id
										s) d. 2 kbps (emergency operations via S- band <b>DSN</b> link)			

## Attachment 2: Modify L3\_F&PRS

L3_FPRS id	object key	CCR	title	text
EOSD0015	1573		Use/support <u>Deep Space Nwk (DSN)</u> <u>contingency ground stations</u>	_ECS shall use and support the <u>AGS, SGS, Deep Space Network (DSN), the Ground Network (GN)</u> , and the Wallops Orbital Tracking Station (WOTS), via the EDOS/EBnet interface, as backup of the SN, to obtain forward and return link data communications.
EOC-4005	199		Transmit cmds to spcrft via EDOS	_The EOC shall be capable of transmitting commands to the EOS spacecraft via EDOS using the: a._SN b. <u>GN, DSN, WOTS (for contingency or emergency operations)</u> <u>AGS, (for contingency or emergency operations)</u>

				<u>c. SGS, (for contingency or emergency operations)</u> <u>d. WOTS, (for contingency or emergency operations)</u>
EOC-4200	215	Support several uplink rates		<p>_The EOC shall support several uplink rates to the spacecraft, which include at a minimum the following:</p> <ul style="list-style-type: none"> <li>a._ 10 kilobits per second (kbps) (SSA uplink)</li> <li>b._ 1 kbps (SMA uplink)</li> <li>c._125 bits per second (bps) (SSA uplink during contingency operations)</li> <li>d._2 kbps (emergency operations via S-band <del>DSN</del> link)</li> </ul>
ICC-4095	405	Receive/process non-telemetry data		<p>_The ICC shall provide the capability to receive and process, non-telemetry data, which includes at a minimum the following:</p> <ul style="list-style-type: none"> <li><del>a._ Monitor blocks from the DSN, GN, and WOTS</del></li> <li><del>b._ Status messages from EDOS</del></li> <li><u>a. (Deleted)</u></li> <li><u>b. (Deleted)</u></li> <li><u>c. (Deleted)</u></li> <li><u>d. Telemetry processing status messages from EDOS.</u></li> </ul>

**Attachment 3: Add New Level 3**

L3_id	req_key	CCR	text
FOS-1140	<u>new</u>	<u>new</u>	<u>The FOS shall support an additional CERES instrument event for solar elevation of -11 degrees, allowing the instrument operations team to accurately schedule CERES solar calibrations.</u>

L3_id	req_key	CCR	text
ICC-7005	<u>new</u>	<u>new</u>	<p>An IST software toolkit shall be provided to each of the following facilities:</p> <ul style="list-style-type: none"> <li>a. Science Computing Facilities (SCF's) that directly support instrument operations</li> <li>b. Spacecraft integration and test facility</li> <li>c. U.S. JPL ASTER Science Team SCF</li> </ul>
ICC-7065	<u>new</u>	<u>new</u>	<p>The IST shall have the capability to accept data from the spacecraft integration and test facility, which includes at a minimum the following data:</p> <ul style="list-style-type: none"> <li>a. Spacecraft flight software loads</li> </ul>
ICC-7075	<u>new</u>	<u>new</u>	<p>The IST shall have the capability to provide data to the spacecraft integration and test facility, which include at a minimum the following data:</p> <ul style="list-style-type: none"> <li>a. Spacecraft memory dumps</li> <li>b. Spacecraft analysis reports</li> </ul>

#### Attachment 4: Add New RBR

RBR_id	req_key	Rel	Req_Cat egory	segm ent	req_type	s_veri f_met hod	s_verif_sta t	a_veri f_met hod	a_verif_sta t	CCR	text	interpretati on text	clarification
FOS-1140#B	<u>new</u>	<u>FPB</u>	<u>mission essential</u>	<u>FOS</u>	<u>functional</u>	<u>demo</u>	<u>un-verified</u>	<u>demo</u>	<u>un-verified</u>	<u>new</u>	The FOS shall support an additional CERES instrument event for		

RBR_id	req_key	Rel	Req_Cat egory	segm ent	req_type	s_veri f_met hod	s_verif_sta t	a_veri f_met hod	a_verif_sta t	CCR	text	interpretati on text	clarification
											<u>solar elevation of -11 degrees, allowing the instrument operations team to accurately schedule CERES solar calibrations.</u>		
ICC-7005#B	<u>new</u>	<u>FPB</u>	<u>mission essential</u>	<u>FOS</u>	<u>functional</u>	<u>demo</u>	<u>un-verified</u>	<u>demo</u>	<u>un-verified</u>	<u>new</u>	<u>An IST software toolkit shall be provided to each of the following facilities:</u> <u>a. Science Computing Facilities (SCF's) that directly support instrument operations</u>	<u>B: AM1 IST sites for CERES, MODIS, MOPITT, MISR, Valley Forge FPB: JPL ASTER</u>	

RBR_id	req_key	Rel	Req_Cat egory	segm ent	req_type	s_veri f_met hod	s_verif_sta t	a_veri f_met hod	a_verif_sta t	CCR	text	interpretati on text	clarification
											b. <u>Spacecraft</u> <u>integration</u> <u>and test</u> <u>facility</u> c. U.S. JPL <u>ASTER</u> <u>Science</u> <u>Team SCF.</u>		
<u>ICC-7065#B</u>	<u>new</u>	B	<u>mission</u> <u>essential</u>	FOS	<u>interface</u>	<u>demo</u>	<u>un-verified</u>	<u>demo</u>	<u>un-verified</u>	<u>new</u>	The IST <u>shall have</u> <u>the</u> <u>capability to</u> <u>accept data</u> <u>from the</u> <u>spacecraft</u> <u>integration</u> <u>and test</u> <u>facility</u>		
<u>ICC-7075#B</u>	<u>new</u>	B	<u>mission</u> <u>essential</u>	FOS	<u>interace</u>	<u>demo</u>	<u>un-verified</u>	<u>demo</u>	<u>un-verified</u>	<u>new</u>	The IST <u>shall have</u> <u>the</u> <u>capability to</u> <u>provide data</u> <u>to the</u> <u>spacecraft</u> <u>integration</u> <u>and test</u>		

RBR_id	req_key	Rel	Req_Cat egory	segm ent	req_type	s_veri f_met hod	s_verif_sta t	a_veri f_met hod	a_verif_sta t	CCR	text	interpretati on text	clarification
											<u>facility,</u> <u>which</u> <u>include at a</u> <u>minimum</u> <u>the</u> <u>following</u> <u>data:</u> <u>a.</u> <u>Spacecraft</u> <u>memory</u> <u>dumps</u> <u>b.</u> <u>Spacecraft</u> <u>analysis</u> <u>reports.</u>		

**Attachment 5: Modify L4 Attribute Text**

L4 id	req_key	rel	req_type	req_status	ver_method	ver_status	CCR	clarification	text
F-FOS-00345	13035	<a href="#"><u>FPBB</u></a>	interface	<u>approved</u>	test	unverified	97-0518B	Reference the Interface Control Document between EDOS and EGS	The EOC shall receive status data from EDOS.

								Elements for specifics pertaining to this interface.	
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**Attachment 6: Add New Level 4**

L4 id	req_key	rel	req_type	req_status	ver_method	ver_status	CCR	text	clarification
F-FOS-10240	<u>new</u>	<u>FPB</u>	<u>functional</u>	<u>approved</u>	<u>demo</u>	<u>unverified</u>	<u>new</u>	The FOS shall provide an IST software toolkit to the U.S. JPL ASTER Science Team SCF.	This IST will have limited (read-only) capabilities.
F-FOS-10245	<u>new</u>	<u>FPB</u>	<u>functional</u>	<u>approved</u>	<u>demo</u>	<u>unverified</u>	<u>new</u>	The FOS shall provide a single IST connection to the U.S. JPL ASTER Science Team SCF.	The U.S. ASTER Science Team SCF is designated as a “read only” site.
F-PAS-00860	<u>new</u>	<u>FPB</u>	<u>functional</u>	<u>approved</u>	<u>demo</u>	<u>unverified</u>	<u>new</u>	The EOC shall generate a Detailed Activity	

L4 id	req_key	rel	req_type	req_status	ver_method	ver_status	CCR	text	clarification
								<u>Schedule file for archival at the ECS SDPS.</u>	
<u>F-PAS-10610</u>	<u>new</u>	<u>FPB</u>	<u>functional</u>	<u>approved</u>	<u>demo</u>	<u>unverified</u>	<u>new</u>	The FOS shall define and display on the timeline an orbital event when the CERES Solar elevation angle value (provided by FDD) is -11 degrees. (This allows the instrument operations team to accurately schedule CERES solar calibrations.)	
<u>F-PAS-10620</u>	<u>new</u>	<u>FPB</u>	<u>functional</u>	<u>approved</u>	<u>demo</u>	<u>unverified</u>	<u>new</u>	The FOS shall define and display on the timeline orbital events	

L4 id	req_key	rel	req_type	req_status	ver_method	ver_status	CCR	text	clarification
								<u>when the CERES Solar elevation angle (provided by FDD) enters and exits a range of values defined by CERES.</u>	
<u>F-PAS-10630</u>	<u>new</u>	<u>FPB</u>	<u>functional</u>	<u>approved</u>	<u>demo</u>	<u>unverified</u>	<u>new</u>	<u>The FOS shall define and display on the timeline orbital events when the value (provided by FDD) dips below a value provided by CERES.</u>	

**Attachment 7****F&PRS Link to RBR**

F&PRS id	RBR id
<u>FOS-1140</u>	<u>FOS-1140#B</u>
<u>ICC-7005</u>	<u>ICC-7005#B</u>
<u>ICC-7065</u>	<u>ICC-7065#B</u>
<u>ICC-7075</u>	<u>ICC-7075#B</u>

**Attachment 8****RBR to Level 4 Link**

RBR id	Level 4 id
<u>FOS-1140#B</u>	<u>F-PAS-10610</u>
<u>FOS-1140#B</u>	<u>F-PAS-10620</u>
<u>FOS-1140#B</u>	<u>F-PAS-10630</u>
<u>ICC-7005#B</u>	<u>F-FOS-10215</u>
<u>ICC-7005#B</u>	<u>F-FOS-10220</u>
<u>ICC-7005#B</u>	<u>F-FOS-10225</u>
<u>ICC-7005#B</u>	<u>F-FOS-10240</u>
<u>ICC-7005#B</u>	<u>F-FOS-10245</u>
<u>ICC-7065#B</u>	<u>F-FOS-10230</u>
<u>ICC-7065#B</u>	<u>F-CMS-01405</u>
<u>ICC-7065#B</u>	<u>F-CMS-01028</u>
<u>ICC-7065#B</u>	<u>F-CMS-00728</u>
<u>ICC-7075#B</u>	<u>F-ANA-04120</u>
<u>ICC-7075#B</u>	<u>F-ANA-04410</u>
<u>ICC-7075#B</u>	<u>F-ANA-04350</u>

**CCR: 97-1132B**

**Baseline: 6/23/97**

**Query Date: 7/21/97**

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RBR id	Level 4 id
<u>ICC-7075#B</u>	<u>F-ANA-04315</u>
<u>ICC-7075#B</u>	<u>F-CMS-01730</u>
<u>EOC-2160#B</u>	<u>F-PAS-00860</u>

## **Attachment 9**

### **Component to Level 4 Link**

Component id	Level 4 id
<u>F System</u>	<u>F-FOS-10240</u>
<u>F System</u>	<u>F-FOS-10245</u>
<u>F System</u>	<u>F-PAS-10610</u>
<u>F System</u>	<u>F-PAS-10620</u>
<u>F System</u>	<u>F-PAS-10630</u>
<u>F System</u>	<u>F-PAS-00860</u>

**Attachment 10****Level 4 to It\_FOS Link**

Level 4	It_FOS id
F-FOS-10240	<u>OPR-2000B</u>
F-FOS-10245	<u>OPR-2000B</u>

**Attachment 11****RBR to It\_FOS Link**

RBR id	It_FOS
<u>ICC-7005#B</u>	<u>IST-2000B</u>
<u>ICC-7005#B</u>	<u>OPR-2000B</u>
<u>ICC-7065#B</u>	<u>OPR-2000B</u>
<u>ICC-7065#B</u>	<u>CMS-2060B</u>
<u>ICC-7065#B</u>	<u>CMS-2170B</u>
<u>ICC-7075#B</u>	<u>ANA-2000B</u>
<u>ICC-7075#B</u>	<u>ANA-2070B</u>
<u>ICC-7075#B</u>	<u>ANA-2060B</u>
<u>ICC-7075#B</u>	<u>ANA-2000B</u>